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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,080	09/29/2003	Hans Ludwig Trautenberg	010408.52704US	4682

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EXAMINER

MULL, FRED H

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,080

Applicant(s)

TRAUTENBERG, HANS LUDWIG

Examiner

Fred H. Mull

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/23/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/29/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawing is objected to because it contains the label "FIG. 1". This label should be removed from the drawing. 37 CFR 1.84(u)(1) states that when there is only a single drawing, it must not be numbered nor include the label "FIG", and that in the specification it should be referred to as "the Figure". Appropriate corrections to the drawings and specification is required.

Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-12 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of any one of Eid, Jouan and Whang.

Chen discloses providing a plurality of receiver units (RU1, RU2, RU3, RU4) receiving navigation signals from at least one navigation signal transmission unit; providing at least one evaluation unit (EU) for evaluating the received navigation signals, and for transmitting navigation signal error information to user terminals (UT) of a radio navigation system; providing the evaluation unit (EU) with a plurality of error models; and determining a estimated navigation signal error information of the received navigation signals from the multiple models; and transmitting the determined error information to at least one of the radio navigation system and to user terminals (section I and II).

Chen fails to disclose selecting one of said plurality of error models as a function of at least one defined selection standard. Instead, Chen takes a probabilistically weighted sum of the outputs of all filters (i.e. IMM) (p. 86, 2nd col., lines 3-4).

Eid discloses that selecting one of a plurality of error models is a know variant of the IMM approach (col. 17, line 6 to col. 19, line 65), where the selecting variant is the second variant, and the IMM variant is the third variant.

It would have been obvious to include the known variant of Eid in place of the IMM output determination of Chen.

Jouan discloses that the complexity and computational load of the IMM approach can prohibit its use (abstract). Jouan further discloses that a multiple model that selects among model outputs (3CV-PAR) will perform reasonably for many applications, and its simplicity and its low computational load compared to IMM make it preferable for these applications (section 8).

It would have been obvious to use a multiple model that selects among model outputs in place of the IMM output determination of Chen in order to provide a multiple model with a low enough computational load to be implemented.

Whang discloses that selecting from among multiple models can produce a more accurate output than IMM (abstract).

It would have been obvious to use a multiple model that selects among model outputs in place of the IMM output determination of Chen in order to get a more accurate output.

In regard to claim 13, the evaluation unit (EU) is constructed as an evaluation unit of at least one satellite navigation system (section I), where the satellite navigation system is GPS.

3. The examiner also finds the following reference(s) relevant:

Zaveri, which discloses that a multiple model which selects from among the model outputs is preferable to an IMM (section 4).

Applicant is encouraged to consider these documents in formulating their response (if one is required) to this action, in order to expedite prosecution of this application.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 571-272-6975. The examiner can normally be reached on M-F 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred H. Mull
Examiner
Art Unit 3662

fhm


THOMAS H. TARCZA
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